

Current Water Conditions in Massachusetts

April 12, 2015



- March precipitation was below normal
- March streamflows were normal and below normal
- March groundwater levels were below normal and normal
- March reservoir levels were normal

Precipitation Conditions

Estimated March state-wide average precipitation is 2.79 inches, which is 70 percent of the long-term average (3.97 inches) for the month. Precipitation in the regions of Massachusetts ranged from 34 percent (Western) to 138 percent (Cape Cod and Islands) of the long term average. A table of March 2015 estimated precipitation statistics, based on preliminary precipitation data from the Department of Conservation and Recreation and National Weather Service precipitation monitoring networks, is attached. A map at the back of this report shows the areal distribution of March rainfall.

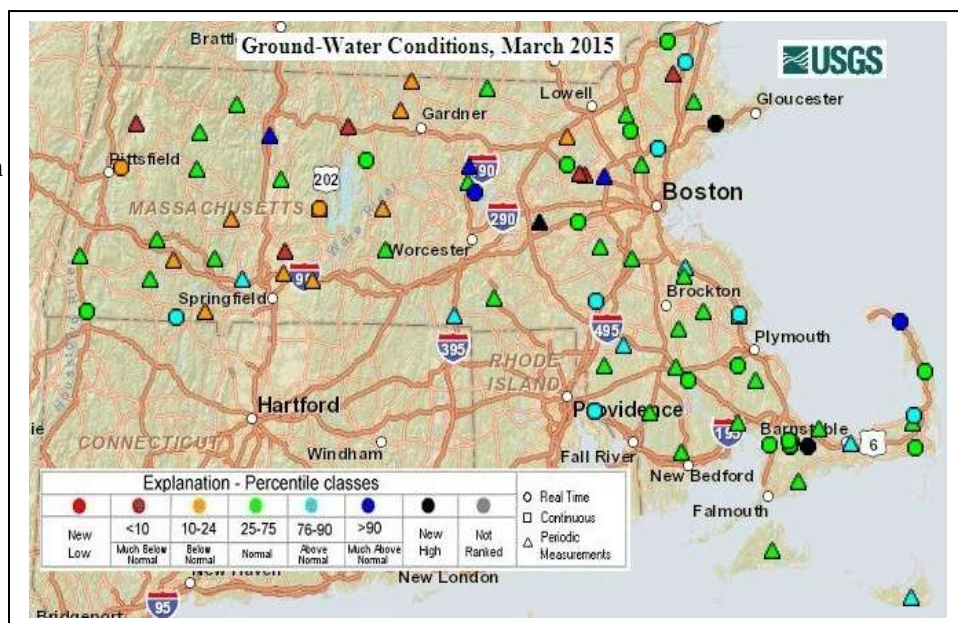
A slow orderly snow melt over the last several weeks has resulted in mostly bare ground in most of eastern Massachusetts. The high ground between Worcester and the Connecticut River Valley generally still has a snow cover with 2 to 4 inches of SWE (snow water equivalent). The northern halves of the high areas west of the Connecticut Valley still have 2 to 6 inches of (SWE).

In areas with no snow cover soils are abnormally moist; this is slightly above normal for this season of the year.

Ground-Water Levels

Ground-water levels reported by the U.S. Geological Survey at the end of March or beginning of April were generally below normal in the far western area and normal in the remainder of the state. An assessment of ground-water conditions in the Massachusetts drought regions is shown in a table at the end of this report. The western region was assessed as having below normal groundwater levels. The remaining regions were normal. The USGS Groundwater Conditions for the end of March 2015 can be viewed at the web site:

<http://groundwaterwatch.usgs.gov/StateMapsNet.asp?ncd=crn&sc=25>



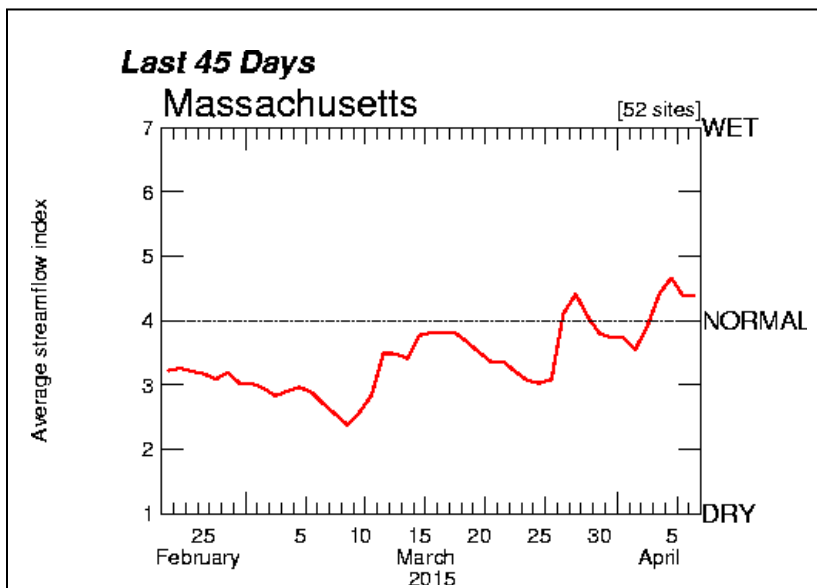
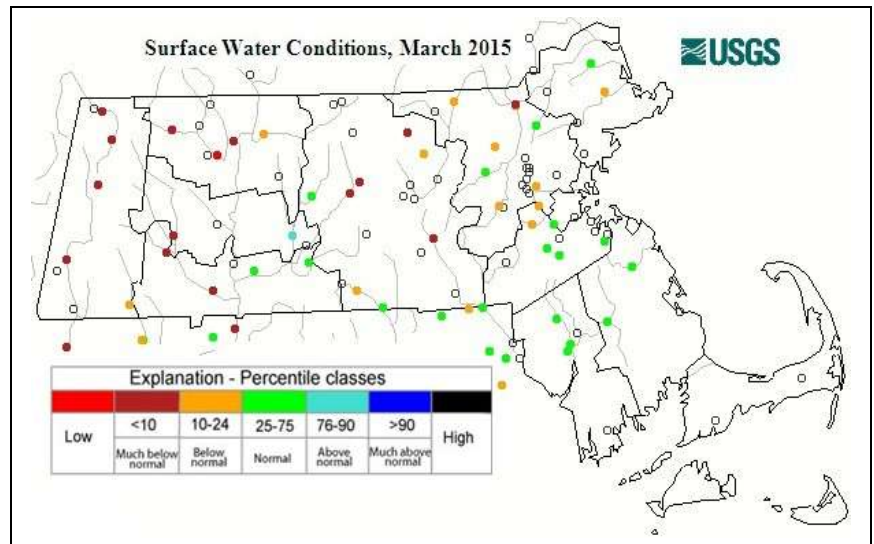
Streamflow

Average March 2015 streamflows that are monitored by the Commonwealth of Massachusetts and United States Geological Survey (USGS) cooperative stream gaging program were generally normal in the northeast and southeastern areas and below normal in the central to western areas of the state.

The graph below depicts a composite daily streamflow relative to normal streamflow for Massachusetts for the period of February 21, to April 7, 2015. Stream flows were in the below normal and low normal range during early to mid -March as a result of continuing cold weather with little very little surface runoff. Several rain events and a warming trend at the end of March and early April resulted in a rising trend in state-wide streamflows. The graph is a composite of 52 real-time gages across the state with a long period of record.

This streamflow plot can be found at:

http://waterwatch.usgs.gov/index.php?map_type1=pa07d&map_type2=&map_type3=&map_type4=&web_type=pa07d%2Cplot&state=ma&huc=us&xinfo=&map_type=real&group_idx=1®ion_cd=ma&group_idx_changed=1&sel_n=map_type1&sel_va=real



KEY:

- 1 = New record low for day
- 2 = < 10th percentile
- 3 = 10th – 24th percentile
- 4 = 25th – 74th percentile
- 5 = 75th – 89th percentile
- 6 = ≥ 90th percentile
- 7 = New record high for day

Water Supply Reservoir Levels

Selected surface water reservoir percent-full values for water supply sources provided by water suppliers are listed below. These levels are generally normal for this time of year. The reservoir percent-full values listed are for the end of March or the beginning of April 2015.

March/April 2015 Massachusetts Reservoir Status

Reservoir/City or Town	Percent Full	Reservoir/City or Town	Percent Full
Quabbin	94.8	Beverly/Salem	99
Worcester	99.8	Lynn	73.2
Cobble Mt./ Springfield	73	Taunton/New Bedford/Assawompsett	NA

Note: NA Indicates data not available for this report

Drought Indices/Forecasts

US Drought Monitor

The National Drought Mitigation Center's (NDMC's) April 6, 2015 Drought Monitor Map shown at right indicates a small area of abnormally dry conditions in northwest and north central Massachusetts. This area is still mostly snow covered. The abnormally dry designation is probably the result of several months of low precipitation in that area.

Standardized Precipitation Index (SPI)

All the Standardized Precipitation Index values for the regions used for the Massachusetts Drought Management Plan are in the normal range. The value for the western Region is close to advisory level.

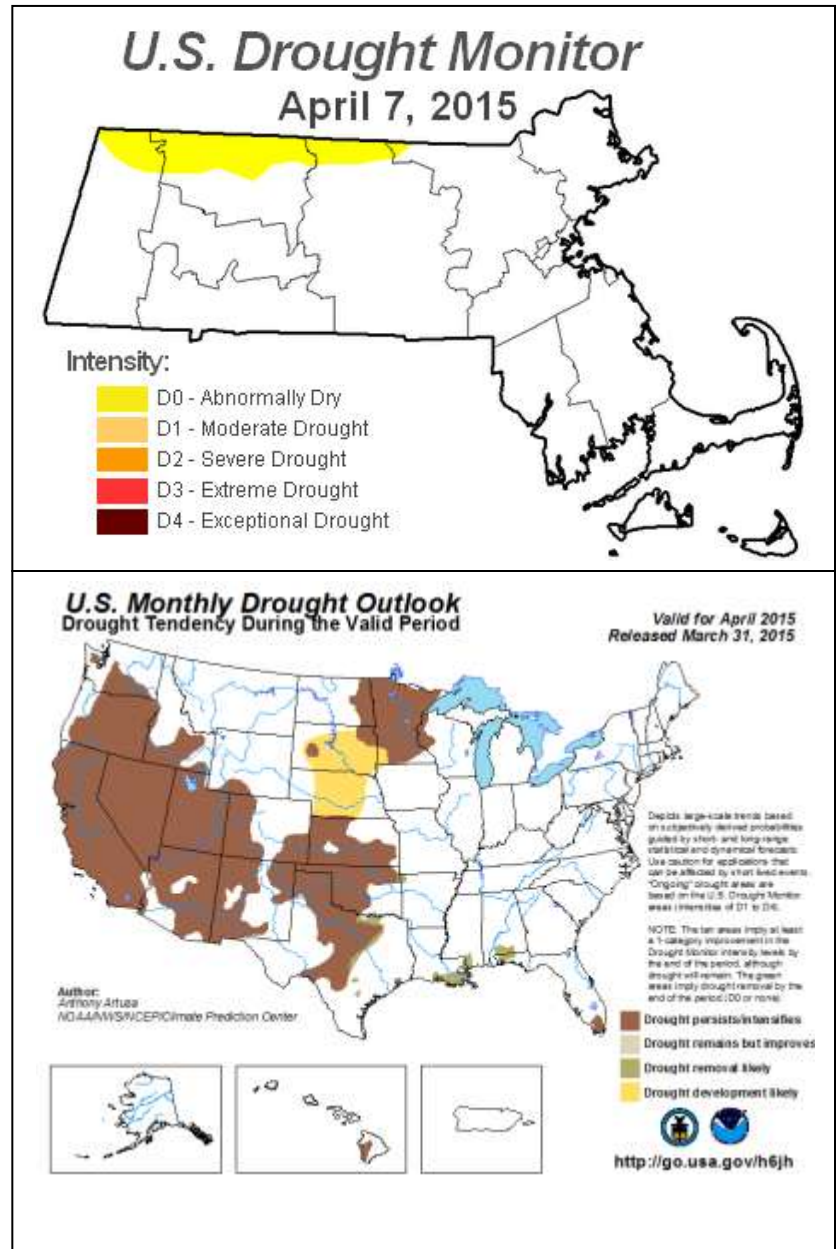
NWS/NOAA's Climate Prediction Center

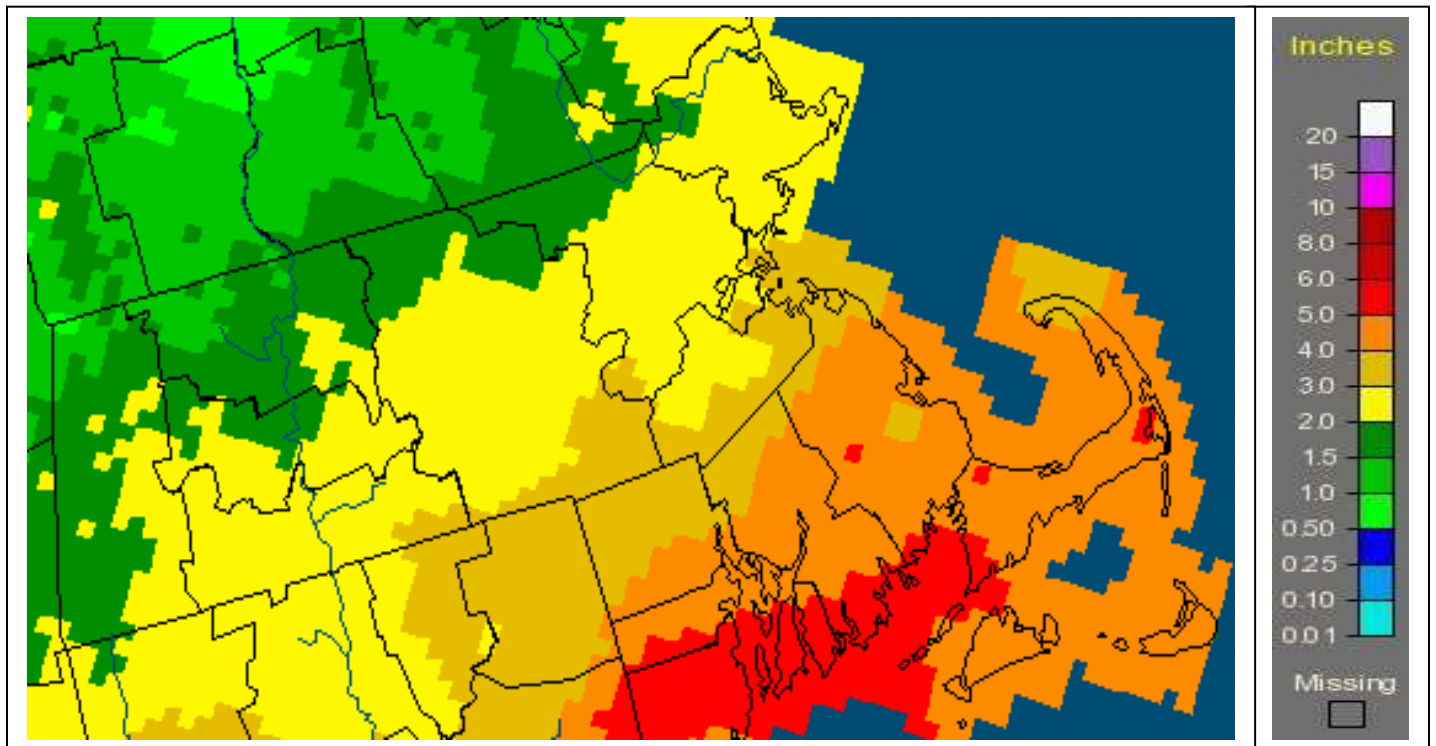
The U.S. Monthly Drought Outlook for April (shown at the right) forecasts that drought conditions will probably not develop during April 2015. The seasonal drought outlook (not shown) predicts that there will likely be no development of drought conditions through the end of June in Massachusetts.

Extended Forecasts

Clearing and cool weather is forecast for tonight. Friday a warm front pushes into the area with showers and warmer temperatures. Friday night a cold front will swing through and will be followed by pleasant seasonable weather through the weekend. Another cold front with showers will pass through on Monday followed by seasonable conditions through mid week. The National Weather Service Climate Prediction Center's extended 6 to 10- day forecast is for above normal precipitation and temperatures. The 8 to 14-day forecast is for normal precipitation and temperatures. The 1-month forecast is for normal precipitation and temperatures. The NWS Climate Prediction Center Information can be found at:

<http://www.cpc.noaa.gov/index.php>





<http://water.weather.gov/precip/>

TOTAL RAINFALL MARCH 2015



GENERAL WATER CONDITIONS IN MASSACHUSETTS - MARCH 2015 EOEEA and MEMA DROUGHT MANAGEMENT PLAN REGIONS

Massachusetts Regions	Surface-Water Conditions	Ground-Water Conditions
Cape and Islands	ND	Normal
Southeast	Normal	Normal
Northeast	Normal	Normal
Central	Below Normal	Normal
Connecticut River	Below Normal	Normal
Western	Below Normal	Below Normal

Note: Surface- and ground-water conditions for individual streamflow-gaging stations and wells may differ from general conditions. ND, no data

This report was prepared by the Massachusetts Department of Conservation and Recreation. Data were obtained from the sources described in the report and may be preliminary in nature. Additional information, previous and future water conditions reports can be found on our web site:

<http://www.mass.gov/eea/agencies/dcr/water-res-protection/water-data-tracking/precipitation-composite-current-conditions.html>